Server Virtualization

IT Steering Committee,
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UBC IT

Our Challenge

How can we deliver research, learning, and administrative applications to the UBC community in the most efficient and flexible manner?

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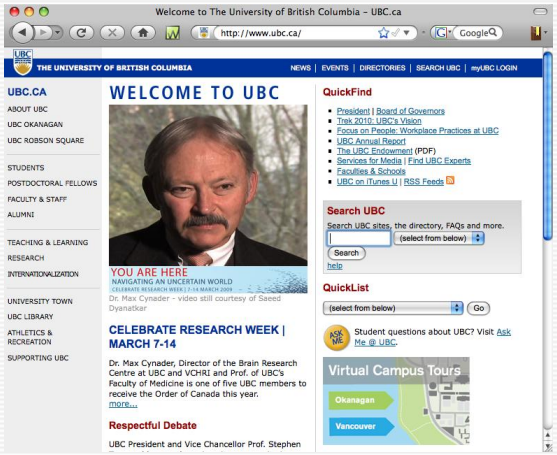
Agenda

- What is Server Virtualization?
- What are the benefits?
- Implementation at UBC
- Discussion

What is Server Virtualization?



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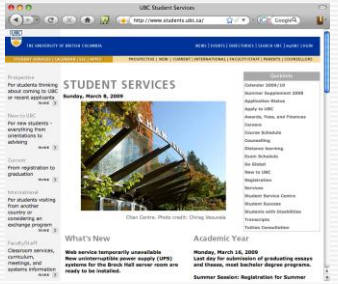
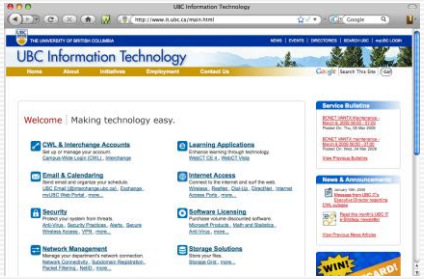
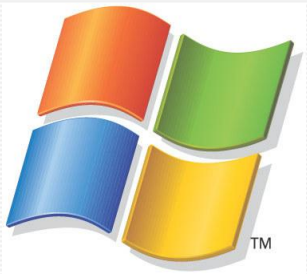




What is Server Virtualization?

vmware



What are the benefits?

- **Flexibility and Scalability**
  - Provision in minutes, not weeks
  - Simplify maintenance
  - Copy, clone, and replicate

- **Backup and Disaster Recovery**
  - Continuous data replication
  - No user impact from hardware failure
  - Recover in seconds, not weeks

What are the benefits - Sustainability

- **Up to 80% reduction in energy usage**
  - 7000kWh per server annually
- **Dramatically reduced CO_2 emissions**
  - 4 tons per server annually

Potential savings of over 4.5 GWh of electricity and 2,500 tons of CO_2 per year at UBC

What are the benefits – Cost Savings

- **Direct Costs**
  - 50% reduction in hardware
  - 40% reduction in networking
  - 60% reduction in power and cooling
- **Indirect Costs**
  - 75% reduction in provisioning
  - 20% reduction in maintenance
  - 55% reduction in downtime and disaster recovery

Potential 5 year direct savings over $2 million, indirect savings over $15 million

Implementation at UBC

- **Build on success of UBC Data Network**
  - Campus-wide infrastructure, local control
- **Expand existing service**
- **Phased rollout**
  - Conduct survey of existing servers
  - Gradual replacement of aging servers
  - Target over 400 administrative servers
- **Enterprise support**
  - 24/7 monitoring and support
  - Transparent metrics

Implementation Challenges

- **Governance**
  - Role of IT Steering and other committees
- **Mandate or incentives**
- **Funding to scale out infrastructure**
- **Pricing structure**
  - Low enough to encourage adoption, high enough to constrain demand

Summary

- Migrate from disparate servers to campus-wide infrastructure
- Allow distributed IT to focus on enabling research and learning
- Dramatic improvements to flexibility and reliability
- Large environmental and cost savings
- Requirement for strong and effective governance

Discussion

OUR SERVERS ARE USING TOO MUCH ELECTRICITY. WE NEED TO VIRTUALIZE.
www.dilbert.com scottadams@aol.com
I DID MY PART BY READING ABOUT VIRTUALIZATION IN A TRADE JOURNAL. NOW YOU DO THE SOFTWARE PART.
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WHY IS YOUR PART TAKING SO LONG?